The Evidence Act at EPA

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Office of the Chief Financial Officer

Presentation Goals

- Overview of the Evidence Act
- Update on EPA activities
- Propose that ORD
  - Lead key aspects of the planning and implementing the required Capacity Assessment
  - Contribute the next iteration the Learning Agenda, and plan research in support of its implementation
  - Leverage the Evidence Act to support ORD's continuous process improvement and program effectiveness
  - Continue the partnership with OCFO to develop, issue, and then implement, EPA's Evaluation Policy

Background

- Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act) is bipartisan, bicameral legislation passed by the 115th Congress and signed on January 14, 2019.

- Provides a new federal framework for agencies to work with stakeholders to promote a culture of evaluation, continuous learning, and decision making using the best available evidence.

- Presidential Memorandum on scientific integrity and evidence-based policymaking, affirms the Biden Administration's commitment to the Evidence Act.

Evidence Act asks agencies to:

- Identify priority questions for a learning agenda that spans the period of the Strategic Plan

- Assess capacity for implementing the Evidence Act, with a view toward developing our longer-term structure for evidence-building activities and EPA's roadmap for an evaluation culture

- Produce data (measures, indicators) of enough quality and rigor for use in statistics, analyses, research, and evaluation

- Provide open access to underlying datasets and metadata, share data with other researchers where feasible

- Engage experts in gathering, synthesizing and evaluating evidence

EPA's key activities to date

1. Named the three 'designated officials'
   - Chief Data Officer – Dr. Richard Allen, OMS
   - Statistical Official – Dr. Alex Marten, OA-OP
   - Evaluation Officer (Acting) – Katherine Dawes, OCFO

2. Established the Evidence Act Workgroup as standing advisory body
   - Co-chaired by the three designated Evidence Act officials
   - All Headquarters offices and key Lead Regions are represented

3. Established the Data Governance Council to guide improvements to access and governance
   - Cross Agency representation
   - Developing a data skills assessment
   - Modernizing Information Collection Request

4. Developed required interim deliverables for OMB's review
   - Learning Agenda
   - Capacity Assessment
   - FY2022 EPA Evaluation Plan

5. Drafted EPA's Evaluation Policy working with the Scientific Integrity Official
   - Under review by the Interagency Council on Evaluation Policy

EPA Evidence Act Workgroup membership

- Chief Data Officer (OMS)   Richard Allen
- Statistical Official (AO/OP)   Alex Marten
- Evaluation Officer (OCFO)   Katherine Dawes
- Learning Priority Lead   Christopher Knopes (Drinking Water Systems out of Compliance)
- Learning Priority Lead   Lynnann Hitchens (Workforce)
- Learning Priority Lead   Robin Richardson (Grant Commitments Met)
- OAR   John Shoaff
- OCSPP   Richard Keigwin
- OECA   John Dombrowski
- OGC   Andy Simons
- OITA   Mike Weckesser
- OLEM   Kent Benjamin
- OP   Al McGartland
- ORD   Alice Gilliland
- OW   Benita Best-Wong
- Region 1   Arthur Johnson
- Region 8   Deb Thomas
- Region 9   Deborah Jordan
- Scientific Integrity Official (ORD)   Francesca Grifo

Learning Agenda

➢ Process
  • Work with stakeholders to develop priority questions that are linked to the Agency's core mission
  • Plan data collection, statistics, evaluations and other evidence-building that address priority questions for the Agency
  • Partner with other government organizations and external researchers on evaluations and other empirical studies

➢ Document
  • Living document that provides a roadmap for addressing priority questions with high quality data, statistics, evaluation, other analysis
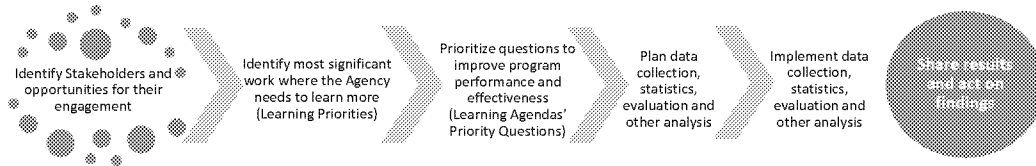 • To be published with the FY 2022- 2026 Strategic Plan

➢ Interim Learning Agenda's priority areas*
  • Workforce planning
  • Safe drinking water compliance
  • Grant commitments

*Opportunity to update the Interim Learning Agenda with additional topics, e.g., Climate Change, EJ

Stakeholder Engagement

The Evidence Act anticipates that EPA will engage key stakeholders, such as states and tribes, academics and other researchers, as well as communities, throughout the development and implementation of the Learning Agenda and other evidence-building projects

Identify Stakeholders and opportunities for their engagement

Identify most significant work where the Agency needs to learn more (Learning Priorities)

Prioritize questions to improve program performance and effectiveness (Learning Agendas' Priority Questions)

Plan data collection, statistics, evaluation and other analysis

Implement data collection, statistics, evaluation and other analysis

Capacity Assessment

Do we have the skills, expertise and infrastructure to implement the Evidence Act?

- **Phase 1:** Understand EPA's capacity and needs for supporting the implementation of the Interim Learning Agenda.

- **Phase 2:** Develop a **Maturity Model** approach for the full capacity assessment to inform ongoing Agency capacity building as well as identifying EPA's capacity and needs for supporting the Final Learning Agenda.

  Initial draft capacity assessment is due to OMB Jun 4, 2021, and final draft by Sep 13, 2021.

Domain →

Research. Research refers to the systematic use of scientific methods for the creation of new knowledge to describe, explain, predict, and control an observed phenomenon. Research can also use existing knowledge in a new or innovative way to generate new concepts, methodologies, and understandings. Research can be exploratory, descriptive, or explanatory. Research uses inductive (qualitative) and deductive (quantitative) methods. The purpose of research is to generate new knowledge or advance knowledge or theory. Research is intended to prove a theory or hypothesis.

5 Attributes (required) →

SBA Maturity Model Sample

		Level 1 (Unacceptable)	Level 2 (Marginal)	Level 3 (Satisfactory)	Level 4 (Above Average)	Level 5 (Exceptional)
	Coverage	Research activities and the development of evidence through research activities DO NOT support the agency's strategic goals and objectives and ARE NOT readily available to use for operational, management, and policy decision-making.	Research activities and the development of evidence through research activities OCCASIONALLY support the agency's strategic goals and objectives but are RARELY available to use for operational, management, and policy decision-making.	Research activities and the development of evidence through research activities ROUTINELY support the agency's strategic goals and objectives and are SOMETIMES available to use for operational, management, and policy decision-making.	Research activities and the development of evidence through research activities ROUTINELY support the agency's strategic goals and objectives and are TYPICALLY available to use for operational, management, and policy decision-making.	Research activities and the development of evidence through research activities CONSISTENTLY support the agency's strategic goals and objectives and are READILY available to use for operational, management, and policy decision-making.
	Quality	Research activities and the development of evidence through research activities ARE NOT ethical and DO NOT meet data quality standards (relevant, accurate, timely, and credible) and standards of objectivity, utility, integrity, and transparency.	Research activities and the development of evidence through research activities ARE ethical but RARELY meet data quality standards (relevant, accurate, timely, and credible) and standards of objectivity, utility, integrity, and transparency.	Research activities and the development of evidence through research activities ARE ethical and SOMETIMES meet data quality standards (relevant, accurate, timely, and credible) and standards of objectivity, utility, integrity, and transparency.	Research activities and the development of evidence through research activities ARE ethical and TYPICALLY meet data quality standards (relevant, accurate, timely, and credible) and standards of objectivity, utility, integrity, and transparency.	Research activities and the development of evidence through research activities ARE ethical and ALMOST ALWAYS meet data quality standards (relevant, accurate, timely, and credible) and standards of objectivity, utility, integrity, and transparency.
	Methods	Research activities and the development of evidence through research activities DO NOT employ appropriate OR rigorous methodological approaches that best support the definitive answers to the research questions under investigation.	Research activities and the development of evidence through research activities RARELY employ appropriate AND rigorous methodological approaches that best support the definitive answers to the research questions under investigation.	Research activities and the development of evidence through research activities SOMETIMES employ appropriate AND rigorous methodological approaches that best support the definitive answers to the research questions under investigation.	Research activities and the development of evidence through research activities TYPICALLY employ appropriate AND rigorous methodological approaches that best support the definitive answers to the research questions under investigation.	Research activities and the development of evidence through research activities ALMOST ALWAYS employ appropriate AND rigorous methodological approaches that best support the definitive answers to the research questions under investigation.
	Effectiveness	Research activities and the development of evidence through research activities DO NOT support agency's program outcomes and DO NOT balance organizational learning, program management, performance management, strategic decision-making, interagency and private sector coordination.	Research activities and the development of evidence through research activities are RARELY related to agency's program outcomes and RARELY balance organizational learning, program management, performance management, strategic decision-making, interagency and private sector coordination.	Research activities and the development of evidence through research activities are SOMETIMES related to agency's program outcomes and SOMETIMES balance organizational learning, program management, performance management, strategic decision-making, interagency and private sector coordination.	Research activities and the development of evidence through research activities are TYPICALLY related to agency's program outcomes and TYPICALLY balance organizational learning, program management, performance management, strategic decision-making, interagency and private sector coordination.	Research activities and the development of evidence through research activities are related to agency's program outcomes and ALMOST ALWAYS balance organizational learning, program management, performance management, strategic decision-making, interagency and private sector coordination.
	Independence	Research activities and the development of evidence through research activities ARE NOT objective, free from bias or inappropriate influence, and DO NOT HAVE appropriate levels of internal and external oversight. Research policy DOES NOT identify accountabilities OR controls related to research activities OR evidence generated from research activities.	Research activities and the development of evidence through research activities ARE objective, free from bias or inappropriate influence and RARELY have appropriate levels of internal and external oversight. Research policy identifies FEW accountabilities OR controls related to research activities and evidence generated from research activities.	Research activities and the development of evidence through research activities ARE objective, free from bias or inappropriate influence and SOMETIMES have appropriate levels of internal and external oversight. Research policy identifies SOME accountabilities AND controls related to research activities and evidence generated from research activities.	Research activities and the development of evidence through research activities ARE objective, free from bias and inappropriate influence and TYPICALLY have appropriate levels of internal and external oversight. research policy identifies MOST accountabilities AND controls related to research activities and evidence generated from research activities.	Research activities and the development of evidence through research activities ARE objective, free from bias AND inappropriate influence, and ALMOST ALWAYS have appropriate levels of internal and external oversight. Research policy identifies ALL accountabilities AND controls related to research activities and evidence generated from research activities.

Developing EPA's maturity model (6 domains)

- *Research and development* activities are defined as creative and systematic work undertaken to develop new data, information, and technologies to support credible decision-making to safeguard human health and ecosystems from environmental pollutants and to enable implementation of programs and policies designed for this purpose. These activities involve both environmental and public health research to better understand and characterize the risks associated with exposure to environmental pollutants; sources, fate, and transport of pollutants in the environment; and solutions to monitor, prevent or mitigate environmental pollutant exposures. Further, agency decision making also include social science and economic research and analysis regarding policy options and decision making.*

- Evaluation* (or Program Evaluation) is an assessment using systematic data collection and analysis of one or more programs, policies, and organizations. The purpose of evaluation is to make recommendations to improve, advance, or modify existing programs, policies, projects, or operations.

- Data Use* ensures the right people are aware of, have appropriate access to, and have the necessary tools and skills to use, the data they need to answer important policy or programmatic questions.

- Statistics* is the collection, compilation, processing, or analysis of data for the purpose of describing or making estimates about the whole vs. an individual. Its purpose is the description, estimation, or analysis of the characteristics of the groups without identifying the individuals

- Analysis* includes policy analysis is of data, such as general purpose survey or program-specific data, to generate and inform policy, e.g., estimating regulatory impacts and other relevant effects. Economic analysis is the study of the allocation of scarce resources, including how markets function and how incentives affect people's, businesses' and institutions' behavior. Within this discipline, environmental and natural resource economics is the application of the principles of economics to the study of how environmental and natural resources are developed and managed.

- Lean management is an approach to managing an organization that supports continuous improvement by using Lean principles and tools paired with routine measurement, visual management and regular engagement between management and staff to identify and solve problems, realize and sustain process improvements, and more effectively achieve agency priorities.

* These 5 domains are required for the capacity assessment by the Evidence Act.

Proposed ORD Actions:

Capacity Assessment leadership

- Develop the "research" definition, recommend how it should be applied to ORD, advise how other EPA offices and regions should assess maturity in this domain

- Work with members of the maturity model workgroup to advise the other definitions for (evaluation, data use, statistics, analysis and/or lean management) as well as defining the different levels of maturity

- Be one of EPA's pilot organizations in conducting a capacity assessment, to give feedback on the process and usefulness of the information

Proposed ORD Actions:

Advancing EPA's Learning Agenda, Evaluation Policy, and development and use of evidence

- Advise the development of additions to the Learning Agenda (e.g., Climate Change, Environmental Justice)

- Include Learning Agenda and other evidence-building activities in FY 2023- FY 2027 Strategic Research Action Plans (StRAPs)

- Develop plans for using evaluation to improve the implementation of R&D programs, and to assess effectiveness

- Continue plans for using lean management to improve process and program implementation

- Continue working with OCFO to develop and issue EPA's Evaluation Policy (i.e., partnering with the Scientific Integrity Official)

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Appendix

U.S. Department of Health and Human Services

Evidence and Evaluation Maturity Model[1]

Capacity Level	1	2	3	4	5
	• Absence of evidence building activities • Aversion to operational change	• Partial leadership support • Common lexicon • Processes to assess agency statistical, evaluation, research, and analytic capacity developed • Engaged stakeholders	• Institutionalization of capacity building activities • Results orientation • Capacity assessment conducted • Inquiry encouraged • Inclusive stakeholder engagement	• Established feedback loops • Ongoing learning opportunities/Communities of Practice • Support for building knowledge about and capacity to use evaluation	
	• Lack of agreement regarding learning priorities • No consensus regarding next steps • Uncertainty regarding stakeholders	• Learning Agenda process developed • Development of theories of change at the strategy level and/or project and activity level • Engaged stakeholders	• Agreement on priority questions • Identification of data needed to answer priority questions • A range of evidence building activities implemented • Results shared/disseminated within agency	• Multi-year Learning Agenda is being implemented • Systematic process in place to guide improved program and agency functioning • Results shared externally	
	• Lack of agreement regarding evaluation priorities and approaches • No centralized list of current/recent evaluation activities	• Limited strategies for conducting and using evaluations • Uncertainty regarding the evaluability of major programs	• Evaluation plans required for major programs • Use of the most rigorous designs appropriate • Organizational structures facilitate evaluation activity	• Cross-cutting studies • Prioritization of studies focusing on effectiveness of key programs consistent with agency priorities • Consistency across agency evaluation efforts	
	• Non existent	• Initial conversations regarding evaluation policy development	• Implicit understanding among stakeholders regarding standards for evaluation design, conduct, and dissemination	• Published policy reflecting key principles (e.g., ethics, relevance, accuracy, objectivity, independence, and integrity)	

[1] Evidence and evaluation maturity also requires sufficient resources such as dedicated funding for evaluation and other evidence building activities, appropriate staff levels and expertise, availability of analytic software and sufficiently powerful hardware, and support for evaluation-related acquisitions.

[2] Absence and lack of agreement could have number of causes such as lack of capacity, disinterest, or hostility towards the endeavor.

Evidence Act Deliverables FY 2021/22

- Jun 4, 2021: Annotated Outline of Learning Agenda and Initial Draft Capacity Assessment due to OMB
- Sep 13, 2021: Full Draft Learning Agenda and Full Draft Capacity Assessment; and Draft FY 2023 Annual Evaluation Plan due to OMB
- Dec 23, 2021: Final Draft of the new Strategic Plan including Final Draft Learning Agenda and Final Draft Capacity Assessment due to OMB
- Jan 14, 2022: Final FY 2023 Annual Evaluation Plan for OMB clearance
- Feb 2022: Final Learning Agenda and Capacity Assessment issued with FY 2022-2026 EPA Strategic Plan

Evidence Act Provisions

- Title I, Federal Evidence-Building Activities: (1) develop and issue a Learning Agenda (i.e. evidence-building plan) and Capacity Assessment as part of the 4-Year Strategic Plan; (2) publish an Annual Agency Evaluation Plan; (3) designate an Evaluation Officer and Statistical Official.

- Title II, Government Data Act: (1) issue a Strategic Information Resources Management Plan and conduct a Comprehensive Data Inventory and (2) designate a Chief Data Officer.

- Title III, Confidential Information Protection and Statistical Efficiency Act: (1) meet confidential information protection requirements and (2) make data assets available, as practicable, to any statistical agency and external researchers.

Key Evidence Act Requirements

§ 312. Agency evidence-building plan (i.e., Learning Agenda)

(a) REQUIREMENT... the strategic plan...shall contain the following:
- (1) A list of policy-relevant questions
- (2) A list of data the agency intends to collect, use, or acquire
- (3) A list of methods and analytical approaches that may be used to develop evidence to support policymaking
- (4) A list of any challenges to developing evidence to support policymaking
- (5) A description of the steps the agency will take to accomplish paragraphs (1) and (2)

(b) EVALUATION PLAN...describing activities the agency plans to conduct... Such plan shall—
- (1) describe key questions for each significant evaluation study
- (2) describe key information collections or acquisitions

(c) CONSULTATION—In developing the plan required under subsection (a), the head of an agency shall consult with stakeholders, including the public, agencies, State and local governments,